

10/629,323
HSJ920030016US3/(HITG.055PA)
Amdt. Dated October 25, 2005
Reply to Office Action of July 25, 2005

IN THE DRAWINGS

Please accept the attached replacement drawing sheets 5 of 10 (Figs. 6a and 6b)

REMARKS

The Office Action mailed May 6, 2005, has been reviewed and carefully considered. Claims 1-28 are pending in the application with claims 3-8, 11-16, 19-24 and 28 objected to as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In paragraph 2 on page 2 of the Office Action, the title was objected to as being non-descriptive.

Applicant respectfully traverses the objection to the title, but in the interest of expediting prosecution has replaced the original title with a more descriptive title.

In paragraph 3 on page 3 of the Office Action, the specification was objected to as failing to provide proper antecedent basis for the claim subject matter.

Applicant respectfully traverses the objection to the specification, but in the interest of expediting prosecution has amended the specification to include the language recited in the claims and elsewhere in the specification. A replacement page of the drawings is included to add the reference numbers for the element recited in the claims. Because of the support in the claims and elsewhere in the specification, Applicants respectfully submit that the amendments do not raise any issues or add new matter.

In paragraph 4 on pages 3-4 of the Office Action, claims 15-18, 25-28 were rejected under 35 U.S.C. §112, first paragraph.

Applicants respectfully traverse the rejections, but submit that the revisions to the specification and drawings overcome the rejection.

In paragraph 5 on page 4 of the Office Action, claims 11-32 were rejected under 35 U.S.C. §112, second paragraph.

Applicants respectfully traverse the rejections, but in the interest of expediting prosecution have amended the claims to overcome the rejection.

In paragraph 7 on page 5 of the Office Action, claims 11, 12, 14-22 and 24-32 were rejected under 35 U.S.C. § 102(b) as being anticipated by Carey.

Applicant respectfully traverses the rejections. Applicant respectfully submits that Carey fails to disclose, teach or suggest Applicant's invention as recited in the claims.

Applicants invention requires at least a free layer for sensing magnetic fluxuations, first hard bias layers abutting the free layer and second hard bias layers, formed over the first hard bias layers discontinuous from the free layer, a magnetization of the second hard bias layers being anti-parallel to a magnetization of the first hard bias layers, the first and second hard bias layers providing a net longitudinal bias on the free layer.

In contrast, Carey shows in Fig. 3 a free layer having a first and second bias layer abutting the free layer. However, the first and second bias layers are in actual contact with the free layer. Thus, neither of the first and second bias layers is discontinuous with the free layer.

In Fig. 7, Carey shows a structure wherein a portion of the free layer is used as a part of a biasing structure. More particularly, Carey states that "right and left portions of bias structure 91 use portions of free layer 78 to the right and left of the track width as the bottom bias layer. However, the free layer is not a hard bias layer because its magnetic moment is free to rotate.

Accordingly, Carey fails to show each of the elements recited in Applicants' claims. Therefore, Applicants respectfully submit that the claims are patentable over Carey.

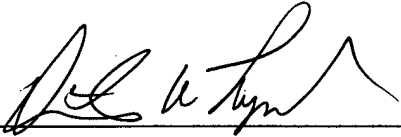
On the basis of the above amendments and remarks, it is respectfully submitted that the claims are in immediate condition for allowance. Accordingly, reconsideration of this application and its allowance are requested.

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If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Attorney for Applicant, David W. Lynch, at 423-757-0264.

Respectfully submitted,

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